Fallacies and Facts Around COVID-19: The Multifaceted Infection

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It has been 5 months since the identification of first cases of coronavirus disease 2019 (COVID-19), however, unveiling clinical characteristics and modes of transmission of the disease is not complete yet.

The initially identified clinical sign of COVID-19 was respiratory in nature in the form of pneumonia with possible fatal consequences due to severe acute lung fibrosis. Extrapulmonary symptoms of the disease are now well recognized with involvement of the liver, kidney, and even multisystem organ failure and acute cardiac arrest.

Symptoms related to the gastrointestinal tract are particularly interesting and these could represent a mode of transmission requiring more attention from researchers and clinicians. Prevalence of diarrhea, nausea, vomiting, or abdominal discomfort is estimated to be approximately 5%.[1] The possible multiple routes of transmission could be explained by the fact that angiotensin converting enzyme 2 protein presents in abundance on lung alveolar epithelial cells and enterocytes of small intestine remarkably.[2] During the first days of the disease, a fallacy was distributed mainly through social media. Drinking hot drinks was promoted as a means to eradicate the virus before it goes beyond the pharynx; however, as more studies were conducted, it was revealed that SARS-CoV-2 can withstand temperatures up to 56°C.[3] On the contrary to this fallacy, an important fact is related to the possibility of the fecal-oral route of transmission which has been identified in multiple case studies and clinical settings. The nucleic acid of the virus has been detected in the feces and anal swabs of some COVID-19 patients, and live virions were shown to exist in fecal specimens in patients with negative oropharyngeal specimen, which indicates that viral infection of the gastrointestinal tract and the potential fecal-oral transmission can outlast the viral clearance in the respiratory tract.[4] An observation that needs further investigation was actually reported from clinicians caring for infected patients, whereby expulsion of excess colonic gas which has an unpleasant odor with or without diarrhea has been noticed (unpublished data). Although this observation is not yet documented, it should be further analyzed and investigated. Whether abdominal gases in COVID-19 patients with gastrointestinal manifestations can be a potential mode of transmission of the virus needs to be ascertained.

Other fallacies that relate to the size of the virus claimed that airborne spread is not possible due to the large size of the virus which makes it drop onto surfaces after 3 hours. It was also claimed that COVID-19 primarily spreads through the respiratory tract, by droplets, respiratory secretions, and direct contact and is not transmitted by aerosol, therefore, only infection control precautions and social distancing for at least 1 m would suffice to prevent the spread of the infection. However, the most recent studies reported that it could be transmitted as an airborne infection for distances exceeding 4 m.[5]

Within this context, there has been some confusion about the types of masks that should be used among healthcare teams caring for COVID-19 patients. Several developing countries have adopted the use of regular surgical masks among healthcare workers caring for COVID-19 patients early in the course of the disease. Medical health workers who primarily use this type of masks are susceptible to infection. Although this is not documented yet, but many healthcare workers in developing countries like Egypt and other countries like Italy and Saudi Arabia have been infected and unfortunately were deceased due to COVID-19. These types of masks alone without complete face shield are not adequate for protection against COVID-19.[6] Within the context of cross-infection control, we would like to stress that donning and doffing of personal protective equipment (PPE) should be conducted in a particular order to prevent infection. The recommended sequence involves removal of the high level maximum protective masks as the last step in doffing of PPE. Handling the contaminated mask itself may transmit the virus and hence cause infection.[7] A suggestion to prevent transmission while doffing involves that PPE undergoes disinfection in a special room or to utilize a specific equipment for disposal of used PPE before doffing.

In conclusion, more facts about COVID-19 transmission and effective preventive measures should be revealed and disseminated among the medical community to preserve the precious lives of healthcare team members. The aim of this correspondence is to draw attention of healthcare workers caring for COVID-19 patients especially those working in developing countries to the possibility of transmission of infection through the gastrointestinal route with particular reference to colonic gases. We further warn them against the use of conventional surgical masks because it is useless in the clinical setting, and also warn them against handling of the contaminated masks during doffing of PPE. Here we suggest the use of disinfection of PPE before removal and the proper way of disposal.

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